

RIVER COURSE REVIVAL

Scaling up nature-based river restoration across Devon catchments, **Leo Dugdale** is tackling severe soil erosion and downstream flooding.



Riverbank before restoration



Riverbank after restoration

During a speech to the National Farmers Union in October 1940, Winston Churchill declared that ‘the farms of Britain are the front line of freedom!’ With local committees given sweeping powers to repurpose land and increase arable acreage to feed the nation, rivers were straightened, and land was drained to boost agricultural production. Although done with the best intentions, the damage to the natural environment was vast and with a rapidly changing climate, rivers have now become the front line in an effort to reinvigorate the natural environment for the long-term benefit of farming and food production.

One local landowner, Leo Dugdale from Yarty Farm in Devon, has been at the forefront of efforts to reduce downstream flooding, slow down floodwaters, and bring back lost biodiversity.

For Leo, the journey into river restoration began with a practical problem: he loved fishing and his riverbanks were disappearing. ‘I have always liked fishing and been interested in rivers, and I knew there were problems on the Yarty,’ Leo recalls. ‘We were losing quite a lot of land on the outside of bends in big storms—we could lose a metre of land at a time. You’re losing good topsoil, and what you gain back is just rubbishy, beachy stone banks.’

Seeking answers, Leo spoke with experts from the West Country Rivers Trust and was introduced to Julian Payne, a hydrogeomorphologist then at the Environment Agency. Payne highlighted the fundamental flaw in the modern riverbed: historical dredging and channelisation had broken through the natural, protective gravel layers, causing the river to eat into the underlying clay and chert.

Instead of spilling naturally over the floodplain during heavy rain, floodwater became trapped inside a narrow, deep ditch. ‘Because the rivers are so incised and the banks are so vertical, the water never gets a chance to drop its energy,’ Leo explains. ‘It undercuts the banks, things fall off, and it just constantly eats back.’

This high-energy flow creates a devastating domino effect for wildlife, particularly migratory fish like sea trout and salmon. ‘Fish have to have loose gravel to lay their eggs in redds,’ says Leo. ‘But if there’s so much sediment coming down, the gravel gets choked. It turns into concrete, and the fish end up laying their eggs on hard bed where they just get washed away.’

Determined to break the cycle, Leo teamed up with local experts, including ecologist George Greenshields and pioneers of riverbed restoration like Chris Banyard. Supported by funding from the Blackdown Hills Farming in Protected Landscapes (FiPL) scheme—led by Hannah Metson and Tim Youngs—Leo designed a plan to raise the riverbed back towards its natural floodplain level.

Using stone alongside strategically placed wooden debris, Leo and his team set about building up the bed and lowering bank sections to create high-flow channels and wetland scrapes. ‘We are trying to start building the river back up so that it is closer to the floodplain,’ Leo explains. ‘When there is a flood, the river can just spread out. It floods earlier, loses its energy, drops its sediment, and doesn’t over-erode the banks.’

While altering a riverway can sometimes provoke initial anxiety among neighbours, the results on the Yarty speak for themselves. Far from ruining

farmland, raising the water table provides hidden resilience during extreme weather. 'In super dry summers, like the one we have just experienced, it gives vegetation in the floodplain a little bit more access to water. We're also seeing much more Water Crowfoot growing which is a very positive sign' Leo notes. 'And in the winter, by slowing the water down, you're knocking the peak off the flood hydrograph. You're not stopping the total volume of water going down, but by extending the timescale, the peak is lower—and it's the peak that causes devastating flooding to houses downstream in places like Axminster.'

The success on the Yarty has sparked demand across other river catchments. Working alongside digger operator David Rendell and agricultural contractor Gavin Squance, Leo has launched River Course Revival, a specialised venture bringing bed-raising and gravel-restoration techniques to rivers like the Culm, the Otter, and the Kit Brook. The team have placed natural stone to rebuild damaged river channels. 'If you look at where we did the work after big floods, nothing budged,' says Leo. 'If the river is working well, everything around it works better. By making the river work naturally, you make the habitat better for everything.'

To complement his river restoration work, Leo is active on the committee of the Axe Vale Rivers Association (AVRA).

JOIN THE REVIVAL

How you can support

Axe Vale Rivers Association (AVRA) is currently going through an exciting period of change. We are considering moving away from our straight forward membership system and opting for a series of project-based appeals—including a planned £30,000 automated fish counter to be installed at the fish-ladder at Weycroft Weir.

AVRA is largely self-funded so we are always grateful for financial support. You can help by a one off donation or by signing up as a member via our AVRA website <https://www.avra.org.uk/>

To keep these vital projects alive, AVRA also urgently needs new energy and hands-on support:

- **Committee Members & Stewards:** Help guide catchment policy, attend regional restoration meetings, and direct future conservation strategy.
- **Schools Project Volunteers:** Coordinate tank installations, teacher training, maintenance and fry releases with local primary schools (ideal for retired educators or passionate naturalists).
- **Practical River Volunteers:** Assist with autumn fish trapping, hatchery maintenance, river restoration and fish monitoring.

No formal ecology degree is required—just enthusiasm for local rivers and wildlife.

Get Involved: To learn more, or offer your time, please contact the Axe Vale Rivers Association (AVRA) chairman Simon Schwerdt by email on contact@avra.org.uk.

Preserving the Future: AVRA and the Schools Hatchery Project

WHILE PHYSICAL HABITATS are being altered by in-stream measures such as Leo Dugdale's, the long-term health of the catchment depends greatly on community stewardship—which is exactly where the Axe Vale Rivers Association (AVRA) plays a role.

AVRA was founded in 1962 and is made up of volunteers who advocate for the protection of fish, river restoration and fauna. On top of geomorphological changes, freshwater biology is being challenged; sea trout and wild salmon numbers 'devastated' at sea, and aggravated among other things by temperature, fluctuating water levels and a general disconnect between people and their environment. It is remarkable that AVRA runs the sole officially authorised sea trout hatchery in the United Kingdom. Each autumn the volunteers catch adult brood stock in the fish-ladder at Weycroft Weir, carefully strip and fertilise the eggs, and then raise tens of thousands of sea trout fry at a site near Chardstock. Some of these are sent to Hooke Springs to be grown on to fingerlings. The sea trout fry are released into the Axe catchment in the late spring, and the fingerlings are released in the late summer.

This sea trout hatchery also supports a key feature

of AVRA's outreach programme which is the Schools Hatchery Project, which is carried out in cooperation with the 'River Runs Through Us' programme. Each spring specialised classroom aquariums containing sea trout eggs are sent to around a dozen primary schools in the Axminster and other surrounding areas. (*To learn more about RRTU visit: tripleaxe.org.uk*).

The eggs hatch into small alevins and the children watch them grow during which they participate in interactive sessions introducing them to fish development/life-cycle and their habitat. In March/April when the young fish have reached the swim-up fry stage, the children take their young sea trout to the nearby streams and release them. This schools project is one of the only programmes of its kind in the UK.

'It's about sparking children's imagination at a young age,' explains Simon Schwerdt, Chair of AVRA. 'In an age where you don't just walk down to a river and hear a big splash, showing children live fish hatching in their classrooms connects them directly to what is happening beneath the surface.' If you want to help in any way you can, contact the AVRA Chairman Simon Schwerdt by email on contact@avra.org.uk.